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Amendment to the Claims:

1. (Currently Amended) A Gifford-McMahon refrigerator comprising:

a housing,
a cylindrical working chamber,
5 a cylindrical displacing member,
a gap defined between the housing and the displacing member,
a first regenerator which is disposed inside the displacing member,
a device alternately supplying the working chamber with an effective
high-pressure gas and an effective low-pressure gas, and

10 a material having a high thermal capacity embedded in at least one surface that defines the gap to define a gap gas second regenerator disposed in thermal communication with the gap.

2. (Currently Amended) The refrigerator in accordance with claim 1, further including:

a second stage equipped with a ~~second~~ gap gas regenerator.

3. (Currently Amended) ~~The A~~ refrigerator ~~in accordance with claim 1, wherein comprising:~~

a housing,
a cylindrical working chamber,
5 a cylindrical displacing member,
a gap defined between the housing and the displacing member,
a first regenerator which is disposed inside the displacing member,
a device alternately supplying the working chamber with an effective
high-pressure gas and an effective low-pressure gas, and

10 a gas gap regenerator disposed in thermal communication with the gap,
the gap gas regenerator ~~includes including~~ a single layer wire coil extending in the axial direction, said coil being arranged on a side of the gap in a wall of one of the displacing member and the refrigerator housing.

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4. (Currently Amended) The refrigerator in accordance with claim 1, wherein the ~~gap gas~~ second regenerator is accommodated in a hollow chamber which is located in a housing of the displacing member.

5. (Currently Amended) ~~The A refrigerator in accordance with claim 4, wherein comprising:~~

a housing,

a cylindrical working chamber,

5 a cylindrical displacing member,

a gap defined between the housing and the displacing member,

a first regenerator which is disposed inside the displacing member,

a device alternately supplying the working chamber with an effective high-pressure gas and an effective low-pressure gas,

10 a gas gap regenerator disposed in thermal communication with the gap, the gap gas regenerator being accommodated in a hollow chamber which is located in a housing of the displacing member, the hollow chamber is being linked to the gap through axially spaced radial bores and further including: and

15 a seal located between the radial bores such that pressure drop across the seal is greater than a pressure drop across the gap gas regenerator.

6. (Currently Amended) The refrigerator in accordance with claim ~~[[2]]~~ 4 , wherein the second ~~gap gas~~ regenerator is disposed in a hollow chamber in an area of a warm end of a displacing member of ~~the a~~ second stage.

7. (Previously Presented) The refrigerator in accordance with claim 8, further including:

a further seal located relative to the first seal at the warm end of the second stage displacing member.

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8. (Previously Presented) The refrigerator in accordance with claim 6,
further including:

space radial bores extending between the hollow chamber and the gap;

and,

5 a first seal extending into the gap between the bores.